

**Polymerases for Analyzing or Typing Polymorphic
Nucleic Acid Fragments and Uses Thereof**

ABSTRACT

5 The present invention provides methods for use in identifying, analyzing
and typing polymorphic DNA fragments, particularly minisatellite, microsatellite
or STR DNA fragments. In particular, the invention provides methods using
DNA polymerases, more particularly thermostable DNA polymerases, and most
10 particularly *Thermotoga* polymerases or mutants or derivatives thereof, whereby
minisatellite, microsatellite or STR DNA molecules may be amplified and analyzed
for polymorphisms. The invention also relates to polymerases having reduced,
substantially reduced or eliminated ability to add non-template 3' nucleotides to
a synthesized nucleic acid molecule. In accordance with the invention, such
reduction or elimination may be accomplished by modifying or mutating the
desired polymerase.